



6712-01

FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 54

[GN Docket No. 13-5; WC Docket Nos. 10-90, 13-97, FCC 14-5]

Technology Transitions; Connect America Fund; Numbering Policies for Modern Communications

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission) seeks comment on a number of discrete issues relating to the rural broadband experiments and on the appropriate budget and funding to support initiatives for the ongoing need for research into the future of telephone numbering. The purpose of these experiments is to speed market-driven technological transitions and innovations by preserving the core statutory values that exist today.

DATES: Comments are due on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** and reply comments are due on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**. If you anticipate that you will be submitting comments, but find it difficult to do so within the period of time allowed by this document, you should advise the contact listed below as soon as possible.

ADDRESSES: You may submit comments, identified by either WC Docket No. 10-90 or WC Docket No. 13-97, by any of the following methods:

- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Federal Communications Commission's Web Site: <http://fjallfoss.fcc.gov/ecfs2/>. Follow the instructions for submitting comments.

- People with Disabilities: Contact the FCC to request reasonable accommodations (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov or phone: (202) 418-0530 or TTY: (202) 418-0432.

For detailed instructions for submitting comments and additional information on the rulemaking process, see the **SUPPLEMENTARY INFORMATION** section of this document.

FOR FURTHER INFORMATION CONTACT: Alexander Minard, Wireline Competition Bureau, (202) 418-0428 or TTY: (202) 418-0484 for WC Docket No. 10-90, Robert Cannon, Office of Strategic Planning and Policy Analysis, (202) 418-2421 for WC Docket No. 13-97.

SUPPLEMENTARY INFORMATION: This is a synopsis of the Commission's Further Notice of Proposed Rulemakings (FNPRM's) in WC Docket Nos. 10-90; 13-97 FCC 14-5, adopted on January 30, 2014 and released on January 31, 2014. The full text of this document is available for public inspection during regular business hours in the FCC Reference Center, Room CY-A257, 445 12th Street, SW, Washington, DC 20554. Or at the following Internet address:

http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-14-5A1.pdf.

Pursuant to §§ 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document.

Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121, May 1, 1998.

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://fjallfoss.fcc.gov/ecfs2/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission's Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

I. FURTHER NOTICE OF PROPOSED RULEMAKING (WC DOCKET NO. 10-90)

1. In the Technology Transitions Order and Further Notice of Proposed Rulemaking (Order), adopted concurrently with these FNPRM's, the Commission kick started the process for a diverse set of experiments and data collection initiatives that will allow the Commission and the public to evaluate how customers are affected by the historic technology transitions that are transforming our nation's voice communications services – from a network based on time-division multiplexed (TDM) circuit-switched voice services running on copper loops to an all-Internet Protocol (IP) network using copper, co-axial cable, wireless, and fiber as physical infrastructure. In this FNPRM, the Commission

seeks comment on a number of discrete issues relating to rural broadband experiments. The final rules that were adopted concurrently with these FNPRM's are published elsewhere in this issue of the Federal Register.

A. Budget for Rural Broadband Experiments

2. The Commission intends to provide funding for experiments to extend modern networks in rural, high-cost areas without increasing the overall size of the universal service fund. The USF/ICC Transformation Order, 76 FR 73830, November 29, 2011, directed Universal Service Administrative Company (USAC) to collect \$4.5 billion annually for the Connect America Fund, and, to the extent disbursements in a given year are less than collections, deposit the excess in a broadband reserve account. Because annual disbursements have been less than \$4.5 billion to date, and funds have accumulated in the reserve account, a limited amount of funding could be awarded for experiments in 2014 from the reserve account without exceeding the overall \$4.5 billion annual budget for the Connect America Fund. The Commission proposes that a limited amount of these unallocated funds be made available for experiments in any part of the country, whether served by an incumbent price cap carrier or rate-of-return carrier. Utilizing these unallocated funds for rural experiments could serve multiple objectives: first, it would enable us to better design the final competitive bidding process that will be used nationwide to award support in price cap territories to the extent the price cap carrier declines to make a state-level commitment; second, it would enable the Commission to provide funding for technology experiments across the country (not limited to areas where the incumbent provider is a price cap carrier), which will help inform future decisions regarding implementation of the Connect America Fund in areas where the incumbent is a rate-of-return carrier; and third, it would help the Commission identify ways to use the various universal service programs together to attack in a coordinated fashion the challenges of universal access in rural America. The Commission seeks comment on this proposal.

3. According to USAC, the Connect America reserve account is projected to have an ending balance of \$1.68 billion as of the first quarter of 2014, with \$1.45 billion of those funds already allocated to Connect America Phase I (incremental support in round one and round two), the Mobility Fund Phase I, the Tribal Mobility Fund Phase I, and the Mobility Fund Phase II. The Commission does not envision using all unallocated funds in the broadband reserve for experiments in rural areas, but rather an amount that is sufficient to enable us to award funding to a limited number of projects that enable evaluation of the four sets of interrelated questions identified above. Should the Commission make available \$50 or \$100 million or some other amount in total support for experiments? Should the Commission allocate a lesser or greater amount? Should the Commission specifically allocate a separate amount for non-recurring support to be awarded on a competitive basis, in addition to recurring support, or merely a total amount that can be used in a variety of ways, depending on the applications received? Should the Commission allocate a portion of the funds for Phase II experiments in price cap areas, and a separate amount for areas outside of price cap territories?

B. Experiments in Areas Where the Incumbent is a Rate-of-Return Carrier

4. In the Order, the Commission concluded that it should entertain proposals to extend next generation networks in areas where the incumbent provider is a rate-of-return carrier. The Commission did so with the intention to use experiments as a vehicle to consider how it might develop a longer term Connect America mechanism that would be appropriately designed to ensure that consumers, businesses, and anchor institutions in rate-of-return areas have access to innovative services delivered over high-capacity networks.

5. The Commission remains firmly committed to the goal of ensuring that universal service support is utilized efficiently to preserve voice and extend broadband-capable networks in high-cost areas in rural America. As discussed in the USF/ICC Transformation Order, the Commission has taken steps to reform the universal service mechanisms that support rate-of-return carriers “to address the misaligned

incentives” of the previous regime “by correcting program design flaws, extending successful safeguards, ensuring basic fiscal responsibility, and closing loopholes to ensure our rules reward only prudent and efficient investment in modern networks.” While the Commission continues to evaluate various proposals in the docket, the Commission intends for rural broadband experiments in rate-of-return areas to provide us with valuable data that will help ensure that funds are disbursed efficiently and in the public interest in areas served by incumbent rate-of-return carriers.

6. The Commission proposes generally to apply the same application process and procedures adopted in the Order for the Connect America Phase II experiment to the experiments in rate-of-return areas, recognizing that it may be appropriate to adopt an implementation schedule different than that used in price cap territories. In particular, the Commission proposes to use a two-stage application process for applications from entities wishing to participate in experiments to extend next generation networks in areas where the incumbent is a rate-of-return carrier. NTCA suggests that the Commission should provide incumbent rate-of-return carriers an initial window to submit applications for the experiment, in advance of soliciting applications from other parties, and also should allow the rate-of-return carrier to undertake the same deployment proposed by a non-incumbent for the same or a lesser amount of support. The Commission seeks comment on these proposals. If the Commission was to adopt such a framework, how much time should be provided for the incumbent to indicate that it is willing to deploy broadband to the same geographic area for the same or a lesser amount of support as proposed by a non-incumbent applicant? Should the Commission provide an opportunity, in turn, for the original applicant (the non-incumbent) to modify its proposal? Would the additional time and complexity of implementing such a process to make final and best offers be unwieldy in what is intended to be a short-term experiment in 2014?

7. Consistent with the approach adopted for experiments in price cap territories and previously implemented by the Commission for the second round of Connect America Phase I, the

Commission proposes that experimental funding would only be made only for locations in high-cost census blocks lacking broadband, subject to a challenge process. The Commission does not intend such experiments to threaten the financial viability of broadband networks that exist today through support from our existing high-cost mechanisms. Without prejudging where the funding threshold will ultimately be set for purposes of the offer of model-based support to price cap carriers, we encourage entities interested in proposing experiments in rate-of-return areas to focus their proposals on high-cost areas similar to those identified in the cost model as potentially eligible for the Phase II offer of model-based support to price cap carriers. The Commission recognizes that representatives of rate-of-return carriers have argued that adjustments would need to be made to the cost model before it could be used on a voluntary basis for any rate-of-return carrier that wished to elect to receive model-based support. Without prejudging the resolution of that question, could the model nonetheless be employed to identify potential areas where experiments in rate-of-return areas might be useful?

8. The Commission proposes to allow proposals in areas where the incumbent is a rate-of-return carrier to be made at the census block level in lieu of the census tract level in recognition that smaller providers may wish to develop proposals for smaller geographic areas.

9. The Commission seeks comment on all of these proposals. To the extent parties argue, the Commission should take a different approach in rate-of-return areas, they should identify with specificity what aspects of the experiments adopted for price cap areas should be modified and why.

C. Selective Criteria for Rural Broadband Experiments

10. A key objective in conducting these experiments is to determine whether there is interest in deploying robust, scalable networks for an amount equal to or less than model-based support. Here, the Commission seeks comment on the selective criteria for those experiments.

11. The Commission seeks comment below on potential selective factors and ask commenters to address how the Commission might implement these selective factors as part of its

objective process for selecting experiments. For example, should the Commission adopt a 100 point scale? The Commission also seeks comment more generally on whether any selective factors should be added, deleted or modified.

12. The Commission proposes that cost effectiveness should be the primary criteria in evaluating which applications to select for the experiment. How should the Commission measure cost effectiveness? One potential measure of cost effectiveness is whether the applicant proposes to serve an area for an amount less than model-based support. Are there other objective measures for cost-effectiveness that the Commission should test in the experimental setting? If the Commission were to adopt such a selective factor and a scoring system, how many points should be provided to applicants based on the cost effectiveness of their proposal? To the extent an applicant seeks one-time funding as opposed to recurring support, how should that be evaluated in the scoring system, as support amounts determined in the forward looking cost model are recurring amounts?

13. A second potential selective criteria is the extent to which the applicant proposes to build robust, scalable networks. In the USF/ICC Transformation Order, the Commission indicated it would initiate a proceeding in 2014 to review the performance requirements in order to ensure that Connect America continues to support broadband that is reasonably comparable to broadband services in urban areas. The Commission hopes to gather valuable data in the rural broadband experiments regarding the extent of interest among stakeholders in building robust, scalable networks that will meet Commission goals for an evolving level of universal service. The Commission adopted an “initial minimum speed benchmark” for recipients of Connect America of 4 Mbps downstream/1 Mbps upstream, but it also specified that some number of locations would receive at least 6 Mbps downstream and at least 1.5 Mbps upstream by the end of the five-year term of Phase II. If the Commission were to adopt such a selective criteria, how much weight should be given to applicants that propose to offer services more robust than what the Commission established for price cap carriers accepting model-based support? Should the

Commission assign varying weights based on the percentage of locations in the proposed project areas that would receive services of varying speeds? Should the Commission also assign additional weight for applicants that propose to offer service with unlimited usage or usage allowances significantly higher than established for the price cap carriers that accept model-based support? Should additional weight be assigned to applicants that commit to offering at least 100 Mbps service to schools with 1,000 students or more, with the ability to scale that to 1 gigabit service within several years, and comparable services to libraries?

14. A third potential criteria could be the extent to which applicants propose innovative strategies to leverage non-Federal governmental sources of funding, such as State, local, or Tribal government funding. The Commission recognizes the importance of a State, local or Tribal government commitment to advance universal service in partnership with the Commission. If the Commission were to adopt this criteria, how much weight should be given to applications that leverage non-Federal governmental funding sources?

15. A fourth potential criteria could be whether applicants propose to offer high-capacity connectivity to Tribal lands. If the Commission were to adopt this criteria, how much weight should be given to applications that propose to serve Tribal lands?

16. Finally, the Commission seeks more specific comment on how the mechanics of the scoring system would function. What role, if any, should there be for more subjective evaluations of the financial and technical qualifications of applicants, or of which proposals provide the best value for requested funding? For instance, should there be flexibility to deviate from the scoring system in order to achieve diversity of projects, both in terms of geography and types of technologies?

17. Relatedly, the Commission seeks comment on what information may be useful to include in the formal proposals for rural broadband experiments, such as: the number of proposed residential and small business locations to be served within eligible census blocks in the relevant census tract; the number

of health care providers, schools and libraries that are physically located within the eligible census blocks; whether the proposal includes the provision of service on Tribal lands and, if so, identification of the Tribal lands to be served; the planned service offerings that would be offered to residential and small businesses, and such anchor institutions, with details regarding the proposed speeds, latencies, usage allowance (if any), and pricing of such offerings; whether the services offered to residential consumers would be sufficiently robust to utilize advanced educational and health care applications; when such services would be available to consumers, businesses and such anchor institutions (the planned deployment schedule); whether the infrastructure can be upgraded later to offer greater throughput (i.e., speeds) and more capacity for each user at a given price point; how network speeds and other characteristics can be measured; whether any discounted services would be offered to specific populations, such as low-income households or customers on Tribal lands; proposed strategies for demand aggregation; proposed strategies for addressing barriers to adoption (e.g., whether the applicant proposes to offer digital literacy training or equipment to subscribers); whether and how other service providers can use the facilities constructed; availability and cost of backhaul and other assets required for project success; whether constraints in middle-mile connectivity may limit the services offered; whether the applicant plans to rely in part on financing from non-federal governmental institutions (e.g., State, regional, Tribal, or local funding; State universal service fund; private foundations); whether the applicant expects to have access to resources that will contribute to project success, such as in-kind contributions, access to cell towers, poles and rights of way, expedited permitting, or existing authorizations; information regarding the proposed network to be deployed and the technologies to be utilized (e.g., wireline, fixed wireless, or mobile wireless); how the applicant proposes to offer voice telephony service to customers at rates reasonably comparable to rates charged for similar services in urban areas; and the amount of Connect America support requested (total and per location) and the time period over which funding would be provided.

D. Additional Considerations for Rural Broadband Experiments

18. In the Order, the Commission makes clear that the experiments will focus on areas where end users lack Internet access that delivers 3 Mbps downstream/768 kbps Mbps upstream. Here, the Commission seeks comment on specific measures to implement that objective. What specific numerical measure should be used to determine whether the extent of competitive overlap is de minimis? The Commission recognizes that unserved locations will not neatly align with census block or census tract boundaries. What measures should the Commission take to ensure that federal funds are focused on bringing next generation networks to the unserved?

19. The Commission expects that the amount of funding to be made available for any experiment will not exceed the amount of model-calculated support for a given geographic area. The Commission seeks comment on whether to limit the amount of support available in census tracts where the average cost per location is higher than the preliminary extremely high cost threshold to the amount per location equal to that preliminary extremely high cost threshold.

20. The Commission seeks comment on allowing applicants for funding awarded through this rural broadband experiment to propose to serve partially-served census blocks, which are not eligible for the offer of model-based support to price cap carriers. In adopting a framework for the Phase II challenge process, the Wireline Competition Bureau (Bureau) concluded, primarily for administrative reasons, that partially served blocks would not be included in the offer of model-based support, reasoning that the administrative burdens on both Commission staff and potential challenges of conducting sub-census block challenges outweighed the marginal benefits. That was a reasonable approach for determining whether the incumbent would receive the opportunity to receive model-based support in exchange for a state-level commitment, given the assumption that areas not served by price cap carriers through the offer of model-based support potentially could be eligible for support through the Phase II competitive bidding process. The Commission believes it could be valuable to examine on a limited

scale, in the Phase II experiment, whether the administrative difficulties of entertaining challenges to the eligibility of partially served census blocks could be mitigated by doing such challenges only if a partially served census block is tentatively awarded funding (rather than in advance of selection). Such an approach could advance the Commission's goal of ensuring that all consumers, businesses and anchor institutions – including those that currently lack service in these partially served census blocks – will have an opportunity to gain broadband access in the future.

21. The Commission seeks comment on any additional rules or requirements it should adopt in the context of rural broadband experiments. For instance, should a condition of participation be offering discounted broadband services to low-income consumers? For applicants whose service areas include Tribal lands, should a condition of participation be offering service to residents and anchor institutions on Tribal lands? Should a condition of participation be to offer to connect community-based institutions, such as schools, libraries, and health care providers, within the project area with high-capacity services appropriate for educational or healthcare activities? To the extent an applicant fails to meet the conditions of its experiment, should facilities built using universal service funding be made available to others? The Commission asks commenters to refresh the record on issues relating to the Eligible Telecommunications Carriers (ETC) designation process. Should the Commission adopt federal rules regarding the ETC designation process specifically for the rural broadband experiments? For instance, should the Commission adopt a presumption that if a State fails to act on an ETC application from a selected participant within a specified period of time, such as 60 days, the State lacks jurisdiction over the applicant, and the Commission will address the ETC application pursuant to section 214(e)(6)? The Commission also seeks comment on whether and how the competitive bidding requirements and other rules applicable to participants and vendors in other universal service programs should apply in the context of these experiments, to the extent an applicant seeks to offer services to schools, libraries, and/or health care providers, as well as to residential end users. Are there other issues discussed above in the

service experiments section that should be addressed in the context of these experiments in rural, high-cost areas, and if so, how?

22. To the extent Connect America Phase II funding is awarded in the experiment prior to the offer of model-based support to price cap carriers, should the Commission direct the Bureau to adjust the offer of support for a state-level commitment to remove those areas from the offer? In such situations, should the incumbent price cap carrier be relieved of its federal ETC high-cost obligations for the area when support is awarded to another entity? The Commission notes that the carrier would still be required to comply with current notice requirements, including notice of discontinuance and notice of network change requirements. Similarly, should areas served by experiments be excluded from the Phase II competitive bidding process? How does the potential difference in duration, or other aspects, of proposals selected for the experiment impact any decision to exclude such areas from the general Phase II competitive bidding process?

E. Rural Healthcare Broadband Experiments

23. In this section, the Commission seeks comment on soliciting experiments that focus on ensuring that consumers have access to advanced services to address the increased and growing demand for telemedicine and remote monitoring. The Commission has a role in ensuring universal access to advanced telecommunications and information services. Historically, the Commission's high-cost program has focused on providing support to providers for the cost of deploying and operating networks in high-cost areas. In the Order, the Commission invites experiments that would explore how to achieve the goals and requirements adopted in the USF/ICC Transformation Order to use the Connect America Fund to tackle the challenges of universal access in rural areas. Here, the Commission seeks comment more broadly on consumer-oriented rural broadband experiments that would improve patient access to health care.

24. When the Commission adopted the Healthcare Connect Fund in 2012, it sought to advance several goals for the rural healthcare program: (1) increasing access to broadband for health care providers (HCPs), particularly those serving rural areas; (2) fostering the development and deployment of broadband health care networks, and (3) maximizing the cost-effectiveness of the program. It also set aside up to \$50 million to conduct a pilot program to test expanded access to telemedicine at skilled nursing facilities. The Commission seeks comment on experiments that focus on the implications of the technology transition on health care facilities and their patients. The Commission seeks comment on conducting experiments that would explore how to improve access to advanced telecommunications and information services for healthcare for vulnerable populations such as the elderly and veterans in rural, high-cost, and insular areas. For example, technological advances hold great promise to enable the elderly to age in place, in their home, with remote monitoring of key health statistics through a broadband-enabled device. Likewise, the Department of Veteran Affairs has implemented a telehealth initiative which has reduced the number of days spent in the hospital by 59 percent, and hospital admissions by 35 percent for veterans across the country, saving over \$2000 per year per patient, including even when factoring in the costs of the program. These programs are critical to achieving savings in healthcare costs, and reducing the amount of time patients are away from home, but a critical gap remains in ensuring that patients, such as the elderly and veterans, have access to sufficient connectivity at home to transmit the necessary data for telemedicine applications such as remote health care monitoring, to enable patients to access the health care provider's patient portal, and for other broadband-enabled health care applications.

25. Consistent with the decision in the USF/ICC Transformation Order to connect all areas, including homes, businesses and anchor institutions – which the Commission defined as schools, libraries, medical and healthcare providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by

vulnerable populations, including low-income, the unemployed, and the aged – the Commission seeks comment on conducting an experiment to support broadband connections to the consumer for discrete rural populations, such as the elderly or veterans, to enable their participation in telehealth initiatives. One example would be a project that seeks to explore how the Connect America Fund can be targeted to work with other federal initiatives to serve the needs of particular populations, such as ensuring adequate health care for veterans in rural America. Another example would be a project that seeks to explore how to use the Connect America Fund to extend broadband to surrounding rural communities that lack residential broadband service.

26. The Commission seeks comment on the amount of funding it should allocate for such experiments. If the Commission moves forward with rural healthcare broadband experiments, it proposes to do so in a manner that would not impact the size of the Fund. Specifically, the Commission proposes funding any such experiments out of the \$50 million currently authorized for the skilled nursing facility pilot program. The Commission has previously decided to set aside that amount of one-time support for testing broadband use in telemedicine. The Commission seeks comment on this proposal and other options that would not impact the size of the Fund, such as funding coming from the existing Connect America Fund budget or the rural health care mechanism.

27. The Commission proposes generally to use the application process described above for the Connect America rural broadband experiments for any healthcare experiments. To the extent parties suggest the Commission use different processes for a healthcare experiment, they should identify with specificity which aspects of the process should be modified and why.

28. The Commission seeks comment on the specific selective criteria for a healthcare broadband experiment. How many projects should be funded, and how should applications be prioritized? What auditing and recordkeeping measures should be in place for any such experiment to protect against waste, fraud and abuse? Are there specific ways in which the Commission's experience

with the successful Rural Health Care Pilot Program or other universal service pilot programs which should be reflected in the evaluation of proposals or the operation of the experiments? Are there requirements under the existing rural health care mechanism (either the Telecommunications Program or the new Healthcare Connect Fund), or other universal service programs, that would be implicated by such experiments? If so, commenters should identify those rules with specificity and indicate how experiments would need to be tailored to such rules, or explain whether and how those rules should be waived or modified.

29. Finally, the Commission seeks comment on how these experiments might be implemented consistent with our legal authority. Following the Telecommunications Act of 1996, the Commission implemented the directives in section 254 by adopting rules to administer universal service through four separate programs, but nothing in the statutory framework requires this result. Sections 254(b)(2) and 254(b)(3) require the Commission to “base policies on the preservation and advancement of universal service” on “principles” that “[a]ccess to advanced telecommunications and information services should be provided in all regions of the Nation” and that “[c]onsumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas should have access to ... advanced telecommunications and information services ... that are reasonably comparable to services provided in urban areas.” Section 254(h)(1) contains specific provisions for “health care providers in rural areas” and section 254(h)(2) requires the Commission “to establish competitively neutral rules to enhance ... access to advanced telecommunications services and information services for all... health care providers.” The Commission seeks comment on the Commission’s legal authority to interpret section 254 to fund experiments that focus on providing advanced telecommunications and information services to consumers in rural areas, with a particular focus deploying broadband that is sufficient to meet consumers’ healthcare needs. The Commission also seeks comment on experiments that would provide support to health care providers.

II. FURTHER NOTICE OF PROPOSED RULEMAKING REGARDING NUMBERING RESEARCH (WC DOCKET NO. 13-97)

A. Research and Development of a Numbering Testbed

30. In the Order, the Commission delegates to the Chief Technology Officer (CTO) (or, in the absence of a CTO, the Chief of the Office of Engineering and Technology (OET), or the OET Chief's designee) in consultation with the Chiefs of the Wireline Competition Bureau (WCB), OET and Office of Strategic Planning & Policy Analysis (OSP), the authority to facilitate the development of a telephony numbering testbed for collaborative, multi-stakeholder research and exploration of technical options and opportunities for telephone numbering in an all-IP network. The numbering testbed is intended to be a proof of concept. Developing ideas in a testbed avoids disrupting current systems and would allow interested parties to work through technical feasibility constraints to allow for the broadest range of policy options and outcomes. The testbed could facilitate the development of a future telephone numbering system by exploring what options are feasible without undue encumbrance by legacy notions and systems. Informed by the research, the Commission would be in a better position to consider what steps may be necessary to facilitate the technology transitions and make informed decisions toward the creation of a next generation, efficient, secure and flexible number management system, while maintaining backward compatibility to the extent possible.

31. In the Order, the Commission sets out its intent to facilitate cooperative research and development into a numbering testbed that builds upon the work of multiple technical bodies and experts to explore issues of number management in a post-transition world. The Commission describes the general purposes of a numbering testbed and direct the CTO to host an initial workshop, open to all technical experts, at which outside experts, advisory groups, standards organizations and other stakeholders who wish to participate can work collaboratively to design and launch a numbering testbed.

The Commission also seeks comment in a Notice of Proposed Rulemaking below on the funding and budget for the testbed and other numbering research initiatives.

32. Much work has already been done by the Commission and multiple expert bodies to identify issues and concerns with regards to the future of telephone numbering. The Commission would expect that any testbed launched after the initial workshop would build upon these efforts.

33. In response to the May 10, 2013 Public Notice seeking comment on potential trials to explore technology transitions issues, the Commission received several comments concerning numbering. Numerous parties noted the need for numbering research, testing and trials. Commenters stated that a trial is needed to explore the changing role of the databases in an all-IP network, and recommended that any trial should be open to carriers, Voice over IP (VoIP) providers, database administrators, and others with an interest in numbering. In Charge Systems noted the need to identify and validate customers and telephone numbers. Neustar noted the decoupling of geography from telephone number assignments as well as the potential elimination of telephone number allocation on a rate center basis. NARUC commented on the need to consider numbering resource utilization and optimization.

34. Building upon the work and recommendations of these expert bodies, the Commission directs that it work collaboratively with government and non-government experts towards basic research into the design and development of a prototype post-transition number management system as described below. The Commission believes that the Commission, in cooperation with other experts, can play an important, beneficial and industry-neutral role in accelerating the development of this pre-market, non-production system.

1. Developing the Testbed

35. The testbed goals would be to enable research into numbering in an all-IP network, unencumbered by the constraints of the legacy network. Such a testbed might address number allocation and management as well as database lookup for call routing. The effort could include two facets: (i) a

small, non-production server system for prototyping, and (ii) one or more workshops or electronic fora to convene an open, cross-industry, and collaborative group of technical experts, including, in particular, software engineers with implementation experience, to sketch and prototype a system for managing numbering resources and obtaining information about these resources. Any testbed should be designed to result in experiences and output that will inform the work of relevant industry standards bodies, Commission advisory bodies and the Commission, using the Internet principles of “rough consensus and running code.”

36. The Testbed. As a small, non-production server system, the testbed itself would be an engineering sandbox designed by technical experts in which to explore the future of numbering in a pre-standards, non-operational, and non-production environment. The Commission anticipates that the testbed numbering system would use common industry approaches, such as HTTP XML or RESTful APIs and JSON, supporting operations such as allocating a number “just in time” or in a block from the available pools of numbers; track to whom the number has been allocated (either a traditional carrier, a VoIP provider or, for 800 numbers, a Responsible Organization (the entity chosen by a toll-free subscriber to manage and administer the appropriate records in the toll free Service Management System for the toll free subscriber) or end user); create credentials for end users and carriers that allow them to assert that they have been issued such a number; rapidly port with validation, including new mechanisms similar to domain names that provide users with secure porting keys for their numbers to greatly reduce erroneous and malicious ports (and the related slamming); associate validated number user information to prevent spoofing; provide information to carriers and providers on how to interconnect to the number; facilitate VoIP interconnection; and promote efficient number utilization including enabling authorized parties to collect information about number usage and assignment, e.g., to effectively prevent number hoarding or inefficient utilization.

37. The Commission further expects that the testbed would include features such as security (including the ability to mitigate spoofing, phishing, unwanted calls, and denial-of-service attacks), the ability to authenticate numbers, traceability, efficiency, portability, and reliability. Any testbed should be designed to promote competition and create predictable dialing protocols for end users. A properly designed testbed should also take into account the needs of emergency communications and N11 dialing for special services, as well as any potential implications for persons with disabilities. International implications should be explored as well as the impact of the IPv6 migration.

38. To be most useful to the Commission, the testbed should permit exploration of what is feasible for an all-IP, post-transitions number system, identify issues, and flag what actions may be necessary in order to facilitate the technology transitions. Questions that could be explored include those noted above as well as: how can the number system be simplified? Can multiple databases exist and can they be distributed? What are the implications of decoupling numbering from geography or services? How can the Commission measure actual number utilization and prevent the inefficient use of numbering resources? What interfaces must be specified? What databases are necessary? How will routing be handled and what information is necessary within the database? What are the implications for number utilization, particularly in light of machine-to-machine communications? Who can a number be assigned to, how can that person be authenticated, and what information about that person needs to be in the database?

39. While the Commission does not anticipate needing a block of NANP numbers to initiate the test bed, would the availability of a block of numbers facilitate the goals of this test bed? If so, can the block be drawn from existing resources such as pANI or the 555 NXX or 456 NPA (carrier-specific services) blocks or should they be drawn from other numbering resources? How large a resource allocation is needed and are there Commission actions that need to be taken to facilitate allocation?

40. Workshop(s). The Commission expects to convene one or more workshops to facilitate the design and development of the testbed. These workshops are intended to be engineering working sessions, modeled after ‘hackathons’ in which groups of technical experts collaborate intensively to work through technical challenges and create prototype systems. Participation is open to any and all technical experts. The Commission particularly welcomes software engineers with experience implementing telephony-related systems.

41. The initial workshop will be hosted by the CTO and will focus on the basic design and launch of the testbed as a non-production, prototype system for managing numbering resources and obtaining information about these resources in a post-transitions world. The workshop has three objectives: (1) to identify the gaps in the existing system for an all-IP environment and opportunities for simplification; (2) to facilitate proposals for a general architecture for the testbed; and (3) to facilitate the infrastructure and organization (mailing list, conference calls) for those individuals that are interested in doing the prototyping and participating further in the testbed process. Subsequent engineering workshops will continue, as needed, to assist participants in refining the testbed and in further exploring the many technical questions raised by an all-IP, post transitions numbering management system.

2. Process and Timeline

42. The Commission expects the testbed to run for about a year. The Commission anticipates that the testbed would be hosted at a neutral but as of yet undetermined location. The Commission anticipates that maintaining the physical testbed will involve a modest expense of a few thousand dollars per year. For further information concerning the testbed and the workshop, please contact Robert Cannon, Robert.Cannon@fcc.gov, (202) 418-2421.

3. Further Notice of Proposed Rulemaking

43. As indicated by experts and commenters, there is an ongoing need for research into the future of telephone numbering. The Commission proposes funding telephone numbering research to

support initiatives like the testbed, and it seeks comment on the appropriate budget and funding. For example, the Commission expects funding to maintain the testbed to be quite modest (approximately \$100 per month for server resources), which could potentially be obtained from a number of sources, but technical staff resources may accelerate progress. The Commission requires the collection of numbering contributions associated with telephone numbering management that are used to fund the operation of numbering databases and services. Should the Commission use some of the revenue collected from these contributions to fund the testbed and related research? How would funding for such research be determined? What types of awards would be appropriate? Should the Commission seek NANC input on what research needs to be conducted? If so, what timeframe would be appropriate for obtaining input from the NANC? The Commission seeks comment on these issues. The Commission also seeks comment on how it can best identify any further research that should be facilitated by the Commission to supplement the work of stakeholders participating in any testbed and under what timeframe that research should be performed. Should the Commission solicit other numbering-related research proposals? If so, what kind of research would be most helpful and how should the Commission facilitate such research?

III. PROCEDURAL MATTERS

A. Further Notice of Proposed Rulemaking in WC Docket No. 10-90

1. Paperwork Reduction Analysis

44. The Further Notice of Proposed Rulemaking does not contain proposed information collection requirements subject to the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, therefore, it does not contain any proposed information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4).

2. Initial Regulatory Flexibility Analysis

45. The USF/ICC Transformation Order and FNPRM, 76 FR 78384, December 16, 2011, included an Initial Regulatory Flexibility Analysis (IRFA) pursuant to 5 U.S.C. 603, exploring the potential impact on small entities of the Commission's proposal. The Commission invites parties to file comments on the IRFA in light of this additional notice.

3. Ex Parte Presentations

46. The proceeding this document initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's ex parte rules. Persons making ex parte presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the ex parte presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with § 1.1206(b). In proceedings governed by § 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's ex parte rules.

4. Filing Instructions

47. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated in the Dates section of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121, May 1, 1998.

For further information, contact Alexander Minard, Acting Deputy Chief, Telecommunications Access Policy Division, Wireline Competition Bureau, at Alexander.Minard@fcc.gov, or at 202-418-0428.

B. Further Notice of Proposed Rulemaking in WC Docket No. 13-97

1. Initial Regulatory Flexibility Certification

48. The Regulatory Flexibility Act of 1980, as amended (RFA), requires that agencies prepare a regulatory flexibility analysis for notice-and-comment rulemaking proceedings, unless the agency certifies that "the rule will not have a significant economic impact on a substantial number of small entities." The RFA generally defines "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small business concern" under the Small Business Act. A small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the Small Business Administration (SBA).

49. In this Further Notice of Proposed Rulemaking, the Commission states that there is an ongoing need for research into the future of telephone numbering, proposes funding telephone numbering research to support initiatives like the testbed described in the Order in WC Docket No. 13-97 described above, and seeks comment on the appropriate budget and funding. The Commission notes that it expects the funding to maintain the testbed to be quite modest (approximately \$100 per month) for server

resources, that it could potentially be funded by contributions already collected in association with telephone numbering management, and seeks comment on this. The Commission seeks comment on how funding for such research should be determined, the types of awards that would be appropriate, whether the Commission should seek NANC input on what research needs to be conducted, and the timeframe for any such input from NANC. This Further Notice of Proposed Rulemaking only seeks comment on funding and budget for research and development projects and does not propose new rules, burdens, or requirements.

50. The Commission therefore certifies, pursuant to the RFA, that the proposals in this Notice of Proposed Rulemaking, if adopted, will not have a significant economic impact on a substantial number of small entities. If commenters believe that the proposals discussed in this Notice of Proposed Rulemaking require additional RFA analysis, they should include a discussion of these issues in their comments and additionally label them as RFA comments. The Commission will send a copy of this Notice of Proposed Rulemaking, including a copy of this initial regulatory flexibility certification, to the Chief Counsel for Advocacy of the SBA. In addition, a copy of this Notice of Proposed Rulemaking and this initial certification will be published in the Federal Register.

2. Ex Parte Presentations

51. The proceeding this document initiates shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s ex parte rules. Persons making ex parte presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral ex parte presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the ex parte presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments

already reflected in the presenter's written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during ex parte meetings are deemed to be written ex parte presentations and must be filed consistent with § 1.1206(b). In proceedings governed by § 1.49(f) or for which the Commission has made available a method of electronic filing, written ex parte presentations and memoranda summarizing oral ex parte presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's ex parte rules.

3. Filing Instructions

52. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated in the Dates section of this document. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). See Electronic Filing of Documents in Rulemaking Proceedings, 63 FR 24121, May 1, 1998.

For further information, contact Robert Cannon, Senior Counsel, Office of Strategic Planning and Policy Analysis, at Robert.Cannon@fcc.gov, or at (202) 418-2421

IV. ORDERING CLAUSES

A. Further Notice of Proposed Rulemaking in WC Docket No. 10-90

53. IT IS FURTHER ORDERED, that pursuant to the authority contained in sections 1, 2, 4(i), 201-206, 214, 218-220, 251, 252, 254, 256, 303(r), 332, 403 of the Communications Act of 1934, as amended, and section 706 of the Telecommunications Act of 1996, 47 U.S.C. 151, 152, 154(i), 201-206,

214, 218-220, 251, 252, 254, 256 303(r), 332, 403, and 1302, and sections 1.1 and 1.1421 of the Commission's rules, 47 CFR 1.1, 1.421, this Further Notice of Proposed Rulemaking in WC Docket No. 10-90 IS hereby ADOPTED.

54. IT IS FURTHER ORDERED that pursuant to applicable procedures set forth in sections 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments on the Further Notice of Proposed Rulemaking in WC Docket No. 10-90 or WC Docket No. 13-97 on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]** and reply comments on or before **[INSERT DATE 45 DATE AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

55. IT IS FURTHER ORDERED, that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this Further Notice of Proposed Rulemaking in WC Docket No. 10-90, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

B. Further Notice of Proposed Rulemaking in WC Docket No. 13-97

56. IT IS FURTHER ORDERED that pursuant to Sections 1, 4, 201, 251, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154, 201, 251, 303(r), and section 1.1 of the Commission's rules, 47 CFR 1.1, the Notice of Proposed Rulemaking in WC Docket No. 13-97 is hereby ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION.

Marlene H. Dortch,
Secretary.

